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ATMOSPHERIC TRANSPORT OF TRACE ELEMENTS FROM VARIOUS SOURCES

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In recent years, the importance of atmospheric transport of materials to the marine region from various sources have been the subject of many studies.

The importance of iron is enhancing the growth of marine pytoplankton has been shown through the iron experiment (Martin, et al 1994). The deposition of the iron over the oceans is due to long range tranport of continental materials, during which diurnal photochemical transformations of the substances are likely to occur. Land locked marine environments such as the Mediterranean and the Black Sea have always been accepted as saturated with respect to crustal materials since the atmospheric avability of such elements as the Iron and Aluminium was never suspected.

This investigation has been performed in order to obtain information as the concentrations and possible sources of the trace elements over the Black Sea , Marmara Sea and Mediterrancan Seas.

The globally important processes which contribute trace metals to the marine aerosol are ;

1. low temperature weathering of the Earth's surface (crustal source)
2. a variety of mainly high temperature anthropogenic and natural processes
3. sea-salt generation (oceanic source)

Some studies, have demonstrated that changes in the concentration of trace metals in the atmosphere can be related to differences in air-mass trajectories and transport pathways. Atmospheric samples collected over the oceanic environment can be significantly different than the ones collected at land locked seas. The pathways of the air mass can alter the chemical composition of the materials as well as the long-range transport of airborne material also effects the size distriburion of the materials. Major natural sourses for trace elements include arid, semi arid and desert regions where wind blown dust is likely to be generated at various extends. Saharan dust originating from North Africa ($19*10^6$ tonnes dust over the Eastern Mediterranean in 1992 Kubilay, 1995) is the major source of the natural atmospheric particles over the North Atlantic and Southern Mediterranean. Recently Kubilay and Saydam , 1995 have shown the effect of Saharan dust over the Eastern Mediterranean basin. Therefore Turkish seas apart from local sources

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